

SOUTH ISIDIS RIM: TESTING GEOLOGIC CONTACT MAPPING USING MOC DATA

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Introduction: The geologic map prepared in this work is representative of the type of complex, multi-layer data that will be importable by users into a GIS web site to be developed in support of Mars landing site investigations. Such a site will enable timely additions of newly released and derivative data sets (such as geologic maps) critical to mission science objectives and engineering constraints.

The results of detailed geologic mapping in support of landing sites within the intermontane plains of possibly fluvial origin (unit Hi) have been reported at several LPSC meetings and Surveyor Landing Site workshops [1-5]. The Isidis rim was selected as the top priority landing sites in the originally scheduled series of landings in the Mars Surveyor Program.

Problem: In this discussion, details of the geologic map are compared with high resolution MOC image data. The objective is twofold: (1) determine whether the mapped units have any obvious surface characteristics at lander (1 to 2

m) scales and (2) to determine if contacts in the geologic map relate to any features that may be detected in the MOC data.

Results: Comparison of the two data sets imply that geologic mapping in lower resolution image data are reasonable and accurate. Although details of the surface texture, shallow deposits, and recent modifications may be undetected in low-resolution mapping, the fundamental interpretations are not rejected.

References: [1] Crumpler, L. S., abstract, Second Mars Surveyor Landing Site Workshop, 22-24, LPI, Buffalo, June 22-23, 1999; [2] Crumpler, L. S., in *Lunar Planet Sci.* XXVIII, 1999; [3] Crumpler, L. S., in *Lunar Planet. Sci.* XXIX, Abstract #1946, LPI, Houston, (CD-ROM), 1998; [4] Crumpler, L. S., in "Mars Surveyor 2001 Landing Site Workshop", NASA-Ames, Moffett Field, CA, January 26-27, 1998; [5] Crumpler, L. S., in *Lunar Planet. Sci.*, XXVII, 273-274, 1997.



Figure 1. Central segment of the geologic map of the Isidis Rim, Libya Montes region overlain on the regional DIM. Ellipses represent 10 x 26 km ellipses originally proposed for MS Landers '01 or '03. For discussion of geologic units see [3, 4, 5]. Also shown are footprints for MOC data and corresponding image numbers. This work focuses on a comparison of interpretations based on MOC data and the interpretations based on the geologic map.